

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

These amendments introduce no new matter and support for the amendment is replete throughout the specification and claims as originally filed. These amendments are made without prejudice and are not to be construed as abandonment of the previously claimed subject matter, or agreement with any objection or rejection of record.

Listing of Claims:

Claims 1-72 (canceled)

73. (Previously presented) A cell-based assay method comprising:
flowing a suspension of cells in a microchannel;
flowing a dye into the resulting flowing cell suspension, thereby contacting the cells and the dye;

incubating the cells and the dye in the microchannel for a time period sufficient for association of the dye with a plurality of the cells in the cell suspension; and,
monitoring a detectable signal from the dye after association with the cells.

74. (Currently amended) The method of claim **723**, wherein said flowing comprises: electroosmotic flow or pressure-based flow.

75. (Currently amended) The method of claim **723**, wherein the microchannel comprises a microfluidic device.

76. (Currently amended) The method of claim **723**, wherein the cells are selected from the group consisting of: bacteria, plant cells, animal cells, fungi, yeast, cardiac cells, and nerve cells.

77. (Currently amended) The method of claim **723**, wherein said flowing a dye comprises introduction of the dye into the microchannel through a side channel intersection.

78. (Currently amended) The method of claim **723**, wherein a time from contact of the cells and the dye to said detecting comprises about 100 seconds or less.

79. (Currently amended) The method of claim **723**, wherein the time from contact of the cells and the dye to said detecting ranges from about 75 seconds to about 10 seconds.

80. (Currently amended) The method of claim **723**, wherein the association of the dye with a plurality of the cells comprises dye uptake by the cells.

81. (Currently amended) The method of claim **723**, wherein the cell suspension comprises from about 200 cells to about 50 cells.

82. (Currently amended) The method of claim **723**, wherein the dye is selected from the group consisting of: a fluorescent dye, a cation indicating dye, a calcium indicating dye, a membrane potential indicating dye, and a Nernstian dye.

83. (Currently amended) The method of claim **723**, further comprising contacting the cell suspension with a modulatory composition.

84. (Currently amended) The method of claim **823**, wherein the modulatory composition is selected from the group consisting of: a neurotoxin, a neurotransmitter, a protein, a peptide, a lipid, a carbohydrate, an organic molecule, a drug, a receptor ligand, an antibody, a cytokine, a chemokine, a hormone, and a cell.

85. (Currently amended) The method of claim **823**, wherein the detectable signal comprises detecting a change in the dye associated with a cell response to the modulatory composition, wherein the change in the dye is selected from the group comprising: a changed fluorescence, a changed light absorbance, and a change in a luminesce.

86. (Currently amended) The method of claim **8[[4]]5**, wherein the cell response is selected from the group consisting of: a changed cation concentration, a changed membrane potential, and a changed calcium ion concentration.

REMARKS

The Status of the Claims.

Claims 73 to 86 are pending with entry of this amendment. Claims 74 to 86 are amended herein. These amendments merely correct typographical errors and introduce no new matter. These amendments are made without prejudice and are not to be construed as abandonment of the previously claimed subject matter or agreement with any objection or rejection of record.

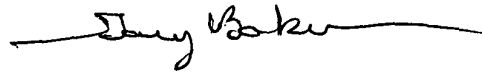
Applicants submit that no new matter has been added to the application by way of the above Amendment. Accordingly, entry of the Amendment is respectfully requested.

CONCLUSION

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 510-769-3510.

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Respectfully submitted,



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